

BASIC INFORMATION

Application No.:	9802175-1	Filing date:	04/Sep/1996
PCT Application No.: PCT/US96/14236			
Publication Number: 51741			
Priority claimed: 07/09/1995 US 08/518,196			
Title of Invention: WALL PANELS AND JOINT STRUCTURES			
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International Patent Classification:	E04B 1/61, E04B 1/14		
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PCT Publication No.: WO 97/09490			
Date of grant of patent:	22/Aug/2000		

REPLACEMENT SHEET

24 DEC 1997

WALL PANELS AND JOINT STRUCTURES

This invention relates to wall panels and more particularly to insulated wall panels, apparatus for interconnecting such panels together to form walls, and to apparatus for connecting the panels to associated structures such as floors, roofs and sub-walls.

It has long been desirable to provide a single, thermally efficient, inexpensive wall panel structure for use in erecting housing or other structures. While many attempts have been proposed, many such wall panel structures are not sufficiently strong to serve as structural building panels without extraneous support or internal studding and the like. Such studding adds components and costs and frequently presents a thermal "short circuit" or bridge lowering the insulative value or rating of the panel.

AMENDED SHEET

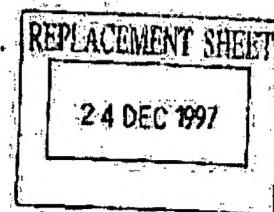
Moreover, when individual panels are interconnected or joined, they may "rake", slide or twist with respect to each other resulting in less than desirable structural stability.

In addition, it is highly desirable to provide a thermally insulative weather-resistant wall panel capable of joinder with other such panels to produce a structurally sound and durable wall structure useful in erecting and forming the walls of a house or building. In many areas of the world, in relative low income, high population areas, inexpensive, structurally sound housing is difficult to obtain. The provision of insulated panels suitable for joinder to form structurally sound, thermally efficient, inexpensive enclosures for human habitat is particularly desirable.

WO80/00586 discloses means for jointing together edges of two adjacent building elements. The building elements each have a groove formed in the respective edge and the jointing means provides surfaces which are pressed against the sides of the grooves. The jointing means is fixed in position by filling the space between the elements with plastic material.

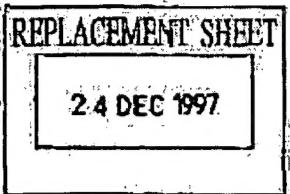
GB-892722 relates to tiled panels. A groove is provided in the edge of the panels to receive a weathering strip, or means, for securing the panels to other structures.

WO94/19558 describes a modular building structure. The structure comprises panels consisting of structural boards bonded to synthetic insulating material. Longitudinal edges of each panel have the insulating material recessed inwardly adjacent the inner surface of the respective boards for receiving splines for joining two adjacent panels.



While insulated wall panels have been proposed, the joining of the panels together, as well as the mounting of panels to associated other structures, are subjects in need of new ideas and improvements. As noted, prior joint and joinder concepts appear to lack a sufficiently substantive nature, produce a thermal "short circuit" destroying the panel's "R" value, or both. Moreover, it has been found difficult to provide a foam core wall panel of sufficient joinder strength and rigidity to serve as a component of a structural wall of such panels.

Accordingly, it has been one objective of this invention to provide an improved wall panel and apparatus for joining similar panels to form a structural capacity wall.



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